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City ground: constructed totality

Artistic and architectural preoccupations with asphalt in the US west coast 1952-1972.

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Through close study of selected artistic and architectural preoccupations with city ground, and the asphalt ground of the modern US west coast city in the mid-twentieth century in particular, this paper explores the geographical idea of the city as a totality of construction, and how this has influenced and intersected subsequent architectural practices of study, research and design practice. The photographic content of key constructed works from 1952 until 1972: a short film by Charles and Ray Eames, Reyner Banham's curated images by Ed Ruscha and others in his written and filmed publications on Los Angeles, and Venturi and Scott Brown's much discussed work on Las Vegas; are argued here to be evidence of a conceiving of the city as both a totality of construction, and as a totality of experience, where the observer/author/designer/researcher becomes a participant. Interchanges and borrowings from geographical, anthropological and other modes of field/work practice, in particular the 'as found' art practices of the 1960s, are touched on, alongside the infatuation and experimentation with new techniques and technologies of film, photography, and airborne views which contributed to a fresh preoccupation with the ground as a continuous surface. Intertwining of geological and geographical with architectural and urban understanding and reading of the paradigmatic city of horizontal expansion has shifted methods of inquiry and evaluation of the city. There is more emphasis on empirical encounter, direct observation and documentation, and an understanding of city ground as a material groundscape, an automobile palimpsest and a figured ground as context for architectural attention and potential proposition.

The paradigmatic city of horizontal expansion

In his introduction to the reprinted edition of *Los Angeles, Architecture of the Four Ecologies*, Anthony Vidler positions Reyner Banham's 1972 written and filmed urban documentaries as a new kind of work on the city. Banham was influenced by geographer, Anton Wagner, his idea of the city as a totality of construction, and "The idea of a city whose history is firmly rooted in its geology and geography...the idea of the architecture of the city as less important than the totality of its construction" and he draws attention to the dependency of geology and geography to the history of the city¹. The space-time science of geography and ground-time science of geology, and other spatial and material disciplines such as anthropology, ethnography, archaeology, material culture, have increasingly become a significant foundation for conceiving of and working with the city. With Vidler's observation as a starting point, in this paper I examine the idea of the city as "a totality of construction",

as actively visually fabricated through influential published documentation of Los Angeles, a paradigmatic city of horizontal expansion superseding the city of verticality, density and proximity. Pierre Bélanger has described dependency “on the singular continuity of a horizontal surface” in recent conceptualisations of landscape urbanism characterised by field and matrix conditionsⁱⁱ. Banham’s publication, *Los Angeles, The Architecture of Four Ecologies* (1971)ⁱⁱⁱ, Denise Scott Brown, Robert Venturi and Steve Izenour’s *Learning from Las Vegas* (1972)^{iv}, are shown to be critically linked to the earlier US west coast work of Charles and Ray Eames’ film, *Blacktop: A story of the washing of a school yard* (1952)^v. A continued permeation of an idea of the city which emphasises horizontality, horizontal relations and continuous surface, is deeply rooted in this geographic paradigm of a totality of construction. Preoccupations with the totality of the city or landscape is a preoccupation with the visibility of extent (or perceived endlessness) of the found city where “as is” extends into a totality of experience, of being in and working with the city. Authors, documenters, designers, historians’ inventing or appropriating of new working methods is a participation in this ongoing construction project. Images, published reproductions of aerial and oblique-angled photography, satellite-based figure-ground drawing, and snapshot image compositions of buildings, monuments and action in context, nearly always in a recurring tarmac ground, are the construction material. While there has been much published discourse on the visual, textual output of this late 1960s material, with focus on the shift from monumental to everyday, selection to inclusion, and the impact on architectural and urban disciplinary debates^{vi}, less has been explored in relation to the criticality and inventiveness of the tools, techniques, methods and practices employed.

There is a shared preoccupation with Los Angeles as a paradigm of a new city: “City of the immediate future”^{vii} (Vidler/Banham); “Los Angeles is the prototype for any city built by any people from anywhere, who have been removed from their native constraints”^{viii} (Eames); “The Las Vegas study was of course a way of studying Los Angeles”^{ix} (Venturi Scott Brown). While there is much attention in the 1960s paid to the automobile, it is perhaps more precise to call Los Angeles a paradigmatic *asphalt city*, where the infrastructure of the airport and city servicing is as significant as the increased consumption and use of private cars. Asphalt is a process and component of modernisation, fundamental to underlying realities of contemporary North American landscape/urbanism. The 1956 US Federal Highway Act, President Eisenhower’s “palliative for the nation”^x was the infrastructural initiative which arguably established twentieth century patterns of mobility and urban development through vast swathes of blacktop laying, a “continental seamlessness”^{xi}. The Eameses were

interested in the image and possibilities of new roads and interchanges^{xii}, Denise Scott Brown was teaching and researching the automobile cities of the American Southwest, Banham presented *Autopia* as one of LA's four ecologies, and much of his 1972 documentary was filmed from within carspace^{xiii}. All share an infatuation with what has been seen in the tradition of architectural representation as "truly reductive forms of representation....simulation...journalistic photography, realistic films, television...that proliferate in our world"^{xiv}. Photography continues to be a significant tool of investigation and documentation as well as a support for design in contemporary habits of architectural research and practice.

The dark side of totality is its voracious need for totality of maintenance in order to avoid potential collapse, breakage or natural decay, where the failure of one part potentially compromises the whole. The project of construction is literally most exposed in its destruction. This has been demonstrated significantly in Los Angeles through human action: most recently the South Central Riots of 1992, previously the Watts riots of 1965; and in geological destruction such as the 1994 earthquake. The asphalt infrastructure and enabling city ground structure studied, celebrated and made in the euphoric times of the 1950s and 1960s in the US has deteriorated, needs significant sustained investment, and can also turn into a territory of terror: of rampage, unruliness, volatility and rupture. This dark seam is an underside which recalls a defining *noir* characteristic of Los Angeles, and perhaps of the generic asphalt city^{xv}. The entropy of post-industrial and post-capitalist empty factories and sub-prime Levittowns become new ecologies, characterised by a totality of wastefulness and decay.

The paper focuses first on conscious preoccupations with the asphalt ground as depicted in the Eameses film, *Blacktop*. Analysis of the filming techniques reveals a manipulation of the gaze from above, the creation of oblique groundscaping shots, where the viewer and viewpoint becomes ambiguously part of the process of washing, even the ground itself. The use of aerial photography as a surveying but also a recording mode recurs in *Learning from Las Vegas*, and in Banham's inclusion of artist, Ed Rushca's aerial photographs in *Los Angeles: Architecture of Four Ecologies*, a clear reference point forty years later for Maclean and Corner. The value given to the snapshot as a mode of engagement is connected in Rushca's work, Banham's visual presentation of the architecture of Los Angeles street views and Venturi and Scott Brown's much discussed 'deadpan' day and night time everyday shots. Finally, the mapping and figure-ground drawing practices of the asphalt ground in

Learning From Las Vegas are related to these visualisations, and to their origin in new satellite images, urban morphological conventions. The photographic view from above and drawn representation can only ever be one-sided. The thickness, hotness, potential rupturing of the ground is deeply denied, while the continuity of surface and resulting flattenings of actual poured material, applied markings, and the topside of buildings, cars and topographic features becomes a visual palimpsest. There is an evident enjoyment of these as artistic and architectural constructions, which perhaps overrides the geographical approach and a more technocratic conceptualisation informed by Banham and McLuhan that may be underpinning them.

Asphalt ground: material groundscapes

Blacktop: A story of the washing of a school play yard (1952), was Charles and Ray Eames's filmic choreography of soapy water washing on the asphalt surface of a schoolyard in Los Angeles, an eleven minute film which uses cinematic devices to create oscillating ambiguities of scale, fluctuations in flattening and heightening of ground surface (asphalt) and figure/ subject (soapy water) [Figure 1]. A visual foundation for the film is their engagement with photographing more natural ground conditions, for instance the tides and reflections near their Case Study home which they built in 1949. They worked in a Los Angeles context of ambiguous urbanity- defined both by the dramatic natural topography of its land and increasingly activated by the asphalt networks of its urban road systems. The Eames' influence on Banham is evidenced by his inclusion of visual and textual reference to their house^{xvi}, and includes one of Charles Eames playfully cropped photographs of the Watts Towers^{xvii}, which is reminiscent of the Eameses toy films. I argue that their practices, especially their filmmaking, communicative and exhibition work, at the start of the US postwar economic bubble, which enthusiastically embraced the new urbanity of the west coast and processes of mass production, helped to liberate the boundaries of what could become appropriate tools and techniques to engage with the urban material of modernity.

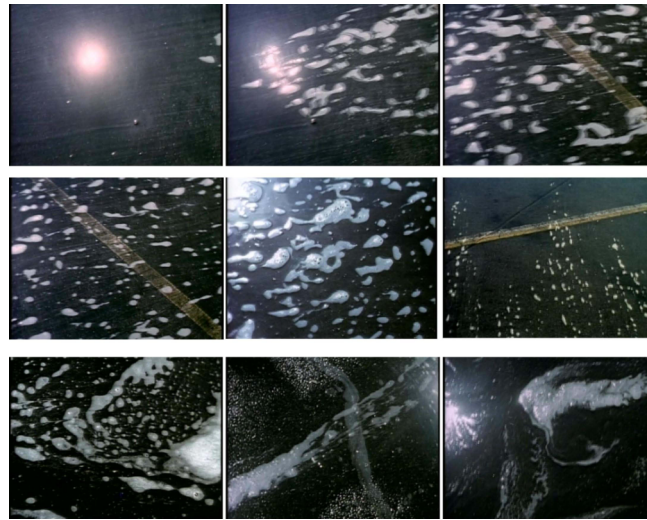


Figure 1. Stills extracted by the author from the film '*Blacktop. A Story of The Washing of a School Yard*', Charles and Ray Eames (1952)

In the article: “Intensification and Intimacy”^{xviii} I have suggested that the idea they were aiming to get across in this film was a blurring – and therefore equating- of natural conditions and an artificiality of ground, where processes of erosion, movement, pattern, reflection and resistance are common to both. I explore flattening, heightening, overlay and counterpoint as techniques used to work with their subject. Charles and Ray Eames, as film crew and filmmakers and editors direct the ‘eye’ through which the viewer understands the subject- a ground figured by ground view, close up, overlay and counterpoint; an aerial view which gives an equality of focus to object and ground and needs negotiation by viewer/ through mediating technology. The Eameses had an interest in how as well as what the eye saw. The transparency to opacity of the washing shifts focus between the blacktop ground and the applied material *figure* of the water, the interplay of the two elements again echoed as canon and bass in the musical variations.

Positioning the camera either as a low ground view or a close-up aerial view creates an intimacy, the viewer is immersed in the ground as subject: blacktop, water, soapiness, line markings, mimicking a brush/ flow of water on the school play yard surface, yet where scale is ambiguous or irrelevant. The aligning of eye with new technology (camera, satellite camera, microsurgery scoping) distances the viewpoint from the bodily experience, as well as offering a new, mediated and almost disembodied, non-human way of seeing the ground.

Ever present is the composite material, blacktop, which is usually an asphalt concrete used for the construction of pavements, highways and parking lots. A material layer usually fifty to seventy-five millimetres deep laid hot and viscous on bases of hardcore, it is usually chosen for its durability to withstand heavy loads, its wear and tear, its relative ease of application and its ability to withstand external changes in temperature, applied road markings. The main constructional precision lies in its subtle falls- cambers, grading to drainage channels and maintaining an even consistency. The blackness of course absorbs heat, light, and is effectively seamless. This smoothness can crack or be ruptured, but remedial re-laying of layers is relatively easy and low-tech. It can be patched, new “seams” fused in, and objects anchored into it. It is a material fundamental to the history of urbanism in the US, where its physical continuity across different regional conditions allows consistency of connections enabling speed, and uniformity. In the film there is a switch from a grainy, grey, dusty surface to a dissolved tar-like substance to a thick material imprinted with imperfections, traces and distinct applied markings. Blacktop homogenises and synthesises: both literally as a material, and metaphorically as an urban idea.

A black solidified land wash, a smoothing which enables more efficient flow and movement - of people, cars, communications, goods, air traffic - is a counter-intuitive treatment of the earth. What is subterranean is suppressed and covered: specific ground conditions, whether porous or clogging, relatively static or volatile (as in the western US seaboard) containing aquifers, wells, minerals, oil, piped infrastructure. Where pieces of building or structure from above meet the blacktop in the film there is often no harmonious connection or articulation, but a disruption or rupture leaving traces of brutal collision. The wire mesh fence is the only vertical element in the film fixed into the blacktop, its metallic twists suggesting a pierced precision contrasting with the inductive heat and shock absorbing asphalt.

The Eameses were concerned with ‘object integrity’ and the particularity of material qualities of objects for use. *Blacktop* literally focuses on the surface of the school play yard and what it seems to become in contact with water, another poured (but not porous) condition, and other objects carried by the flow. Relatively few joints or interruptions give it a sense of being scale-less and potentially infinite, a sealing sediment, perhaps an entombment of natural forces. Seepages, imperfections, and implicit dark depths below recall the staged contest and required mediation between natural unruliness and civilised artifice.

Asphalt ground: automobile palimpsest

In 1971 Banham calls Los Angeles “a transportation palimpsest”^{xix}, and explicitly opens his BBC documentary *Reyner Banham loves Los Angeles* with a journey from LAX airport terminal across the road on foot to his car. The early 1970s were the period when SouthWest Air and other airlines significantly expanded and opened up new possibilities of mass air transit. The question of how to understand and describe this new expanded and connected city was paramount in architectural and urban circles in the 1960s^{xx}. In the film, Banham claims that his aim is to write “a guide to explain the unspeakable”; he uses *Baede KAR* as his virtual guide to the city of electrographic architecture, and participates in a bus tour of the city. Los Angeles is introduced as a city unlike any other. Freeway driving, where you “see all the weird and wonderful places that you can’t see from elsewhere”, is eulogised, with the “long, smooth sweep” of highway intersections, a high curving ramp seen against the sky, echoing a visual infatuation recognisable from flyover images celebrated by the Eameses. The architectural historian becomes a film director with conscious cuts in and out of the film to enable filmic references. Banham invites a deeper looking into what the spreading mass of the seventy square miles of city is: “a long line of business towers threaded through a sea of little houses...business islands in a sea of domesticity”. Banham’s framing of the city as an architecture of ecologies clearly has geographical, geological as well as technographic fields reference points. Form matters little, “as long as it works”. The film, book covers, and many of the one hundred and twenty three images in the book are taken from or within the territory of the freeway, capturing to some extent the totality of experience of auto-mobile engagement in this city.

However, the five Ed Ruscha aerial view images which Banham chooses to include show parking landscapes adjacent to new buildings and introduce a shifted focus. These are images which dwell on the groundscape that is being constructed at speed, and that is continually being moved through. The slight oblique angle which is reminiscent of modernist isometric projections of architectural design projects and close cropping and framing of the image merges ground and figure, context and building, and it is suddenly questionable which should be the most dominant. The image, taken from a moving machine in the air, offers a new, stilled critical distance, a non-experiential reading of the reality of the city as a total groundscape. In these images, the white line markings of the car park spaces and driving directional arrows also begin to act as figurings of the ground, overlaid with the traces of use, rubber tyre mark routes. They adopt an equal visual value to the thin concrete edgings of parapet walls forming the outer perimeter of the buildings included. Instead of seeing the

car park as a plot attached to the building of separate value to the street infrastructural system, the continuity of the asphalt layer opens up a visualisation of the seamlessness of Banham's metaphorical sea.

John Myer and Kevin Lynch's 1964 *The view from the road* aimed to develop "design guidelines for urban highways which would enable drivers to perceive the city as an aesthetically pleasing whole. The architect becomes a director of the gaze"^{xxi}. "Flâneurs in Automobiles" is a transcribed conversation fifty years later between Peter Fischli, Rem Koolhaas and Hans Ulrich Obrist discussing the working processes of the Venturi Scott Brown Harvard studio^{xxii}, drawing out the relationship between the authors, a "relaxed negligence", a "non-style" of the pictures, a direct and personal participation. More recent exploration of the road as a narrative trope in the context of landscape constructions, exposes a Bakhtin reading of "the backroads of modernity", and the contradiction between the travel of designers, and the professional discourse on landscape and sense of place which conventionally tends to celebrate rootedness^{xxiii}. This focus remains, however, as an experiential ground story, one of streaming, of being 'On the Road', rather than an overview or critical image constructed from a positioned distance off-road.

Asphalt ground: figured architectural context

Ed Ruscha's work and working methods were important too for Venturi Scott Brown and the work they undertook in the 1968-9 Harvard Las Vegas studio. A recent exhibition and publication which draws from full access to the VSB archive, originally 5000 colour slides and 3000 metres of film, focuses on individual "photographic sensations" of the visual discourse, where 'the photographic trace is both the means of argumentation and representation in their research object'^{xxiv}. This return to "the point before theory formulation" manifest as the 1971 book, concludes that one of the lasting consequences was "focusing architectural thought and action on the here and now"; working *with* and *on* the image of the city; rather than towards a social/ architectural utopia yet to be achieved.^{xxv}. The view of the asphalt ground from the air as part of an automobile palimpsest, as well as a distinct material urban landscape, becomes a new way of seeing and understanding the modern city for instance in the helicopter photographs. The snapshot sense of colour and composition, cropped image, random flashes of coloured paint on cars, seems to be reminiscent both of

the material fascinations and techniques which were evident in the Eameses film, *Blacktop*, as well as the actualisation of a new expanding autopian landscape.

Experimentation with new practices of documentation is clearly connected with experimentation of understanding the new city as an idea, as a coherent entity. Low-tech, inventive, in-situ, these practices are closer to journalistic processes, and of practices and techniques borrowed from anthropology, art and mainstream popular media, with commitment to the visibly at hand, to revealing the unedited surplus of the visual everyday of the city. Ed Ruscha defined four rules of his “as found” attitude, working with material apparently without author, without history: 1. finding things in a world that are intriguing; 2. making note of them; 3. glorifying them, and 4. assembling them in a collection^{xxvi}. Denise Scott Brown referred to film and videotape as useful for “new analytic techniques”, and encouraged students to explore “mapping, movies, collages, multi-media, multi-slide projection, graphic and other techniques” as a way of engaging with “the aesthetics of urban sprawl in its purest and most extreme urban form”, “a stocktaking of the city”^{xxvii}. Later reflections by Venturi Scott Brown do confirm a historical dimension to the development of urban Las Vegas, and their published work: a ‘*Then*’, when Las Vegas was a paradigmatic architecturally uniform city of western history and seen to be produced by everyday American folk culture, a “mass ornament”^{xxviii}.

Amongst dead-pan street montages, diagrammatic signage mappings, fields of collected colourful photographic signages, typographic manifesto, newspaper articles, and authorial sketches, the white on black figure ground drawings of the Las Vegas Strip have become some of the most iconic attempts to represent the paradigmatic city of horizontal expansion, of the dynamic automobile city, while simultaneously operating within recognisable urban and architectural disciplinary modes of constructing a ground within which to situate future proposition. In the book, Venturi Scott Brown provocatively paste an image of a Las Vegas sign onto a portion of Giambattista Nolli’s 1784 plan of Rome, yet I suggest that the more significant reference point is the aerial image of the territory from which the strip has been extracted, and the night- time neon-lit images of the city in the desert. Foregrounding the material asphalt, and its associated spatial structure is a register of urbanism which becomes a provocative figuring of the ground. Denise Scott Brown refers to these as “the less sexy studies”. The four published analytical drawings in this mode, of Undeveloped land, Asphalt, Ceremonial spaces and Casinos are selected parts of the aerial view, a rich

patchwork of roads, land, housing settlements, airport, riven ground, already heavily inscribed by use and settlement, which becomes a homogenous and abstract context. “We took that [aerial view] photograph apart in all sorts of ways to learn what it was made up of”^{xxix}.

The origins of *figure-ground* as a term lie in gestalt psychology, and became a way of conceiving subject-object relations in architectural thinking and practice in the mid- twentieth century. Its etymology, from *figura* (form) and *grund* (carry back), has been described as a perceptual field that is divided into a figure, which is the object of focus, and a diffuse background. The figure-ground relationship has been claimed to be one of the most defining relationships of architectural design and construction, widely used as a comparative tool in urban planning and spatial analysis. The division or separation of a field into a figure of focus, in contrast to a more diffuse background is fundamental to figure-ground drawings, and creates a dynamic relationship of visual switching between, a condition where simultaneous perception is difficult, and connections made between imagination and image depend on the observer’s cognitive ability to separate elements based on contrast, usually dark and light, black and white. This relational construction raises particular problematic conditions: firstly where the figure and ground are visibly complete and communicate a perceived whole, yet one that is highly selective; secondly an inverted condition where there the figure should be the ground and the ground should be the figure; and thirdly where the figure and ground create an optical illusion and an ambiguity which can be a source for graphic design practice and techniques. Differentiation of figure and ground relies on contrast between form and formlessness (definition), front and back (depth), brightness, and dominance. When the figure becomes the ground itself in photographic and drawn images communicated as the city: in this case, asphalt, surface markings, there is a visual switching, a drawing attention to unexpected relationships.

Venturi Scott Brown’s analytical figure ground drawings of the Las Vegas strip can be read together as a figured architectural context which attempts to reveal some realities of the horizontal city, of “what it was made up of”, arguably closer to a geographical rather than an historical or conventionally architectural reading of city ground. They were influenced by the work of other artists, architects and image-makers, such as the Eameses, Ruscha, and Banham, who were grappling with the reality of the vastness of experience and new material infrastructures of the city of horizontal expansion. Working with the new city as a fifth elevation revealed from aerial viewpoints, whether affording a territorial overview, hovering

over to capture sample snapshots, or constructing a fully participatory groundscaper view, open up a new urban landscape, an asphalt ground, a constructed cityscape. This paper suggests that postwar urban practices were as influenced by artistic and architectural preoccupations, aesthetic sensibilities and the totality of experience of field/work practices, as by more scientific, technographic and geographical readings of the ground, although there is a shared ideation of the city as a constructed totality.

ⁱ Vidler, A 'The City of the Immediate Future', in *Los Angeles, The Architecture of Four Ecologies*, Banham, R, University of California Press, 1971: 2000 edition p. xlv.

ⁱⁱ Bélanger, P "Synthetic Surfaces", in Charles Waldheim (ed), *The Landscape Urbanism Reader*, New York: Princeton Architectural Press, 2006 p. 241. Bélanger refers to "Stan Allen's "radical horizontal urbanism"...a vast mat-like field...a smooth continuous matrix." These preoccupations are also evident in Alex MacLean and James Corner's *Taking Measures across the American Landscape*, Yale University Press, 2000.

ⁱⁱⁱ Banham, R *Los Angeles, The Architecture of Four Ecologies*, University of California Press, 1971; London Allen Lane 1971; hardback first California paperback printing, 2001 with foreword by Anthony Vidler; 2009 edition with foreword by Joe Day 'After Ecologies'.

^{iv} Izenour, S, Scott Brown, D, Venturi, R *Learning from Las Vegas* first ed. Cambridge, MA: MIT Press 1972; revised *Learning from Las Vegas: The forgotten symbolism of architectural form* Cambridge, MA: MIT Press 1977.

^v Eames, C and Eames, R *The Films of Charles and Ray Eames*, California: DVD The Eames Office, MM Image Entertainment Inc., 1989, Volume 2. See also Neuhart, J, Eames, C, Eames, R, Neuhart, M *Eames Design: The work of the Office of Charles and Ray Eames*, [Harry Abrams, New York, 1989.

^{vi} For instance, Golec, M. J and Vinegar, A, *Relearning from Las Vegas*, University of Minnesota Press, Minneapolis, London, 2009; Hardingham, S and Rattenbury, K *Supercrit#2 Robert Venturi and Denise Scott Brown Learning from Las Vegas*, Routledge, Abingdon, 2007. *Supercrit#2* takes advantage of a lecture visit of Denise Scott Brown and Robert Venturi to London in 2004. As a deliberately reflective conversation with a curated gathering, it offers some additional insights into how VSB worked includes extensive related bibliographic material. Like the essays in *Relearning from Las Vegas* (Golec and Vinegar, 2009), it has a significant focus on the graphic presentation and visual influence of the original publications, celebrating the 'glamour and beauty' of the original book.

^{vii} Vidler, A *ibid* (2000 edition). p. Xxxii-xlix.

^{viii} Charles Eames interviewed by Paul Schrader. Schrader, P 'Poetry of Ideas: The films of Charles Eames', *Film Quarterly* 23, 3 (Spring, 1970) p. 15.

^{ix} Stierli, M 'Las Vegas Studio'; Robert Venturi, Denise Scott Brown and the image of the city' in Stadler, H, Stierli, M and Fischli, P *Las Vegas Studio: Images from the Archives of Robert Venturi and Denise Scott Brown* [Verlag Scheidegger & Speiss, Zurich, 2008] p. 11-31.

^x Bélanger, P "Synthetic Surfaces", in Waldheim C (ed), *ibid*. 2006. This comprised 43,000 kilometres of a surface network of 24 foot widths comprising two lanes in each direction.

^{xi} Bélanger, P "Synthetic Surfaces", in Waldheim C (ed), *ibid*. 2006. p. 252. He highlights extraordinary material comparisons - this network is equivalent in concrete consumption to 80 Hoover Dams.

^{xii} Schrader, "Poetry of Ideas", p.5 illustrates his article with an image of the 1959 World Fair, Moscow, and the Eameses installation of screens of enlarged aerial views of flyover road interchanges which started the presentation. This draws out a beauty and fluidity, an unexpected viewing, perhaps sharing some of the conception and belief of the highway engineers, a precursor to

photographs in James Corner, Alex MacLean, *Taking measures across the American Landscape*, Yale University Press, 2000.

xiii Cooper, J dir. *Reynier Banham loves Los Angeles*, BBC Documentary, 1972, approx 1 hour.

xiv Perez-Gomez, A & Pelletier, L *Architectural representation and the Perspective Hinge*, MIT Press, 200, p. 82.

xv Mike Davies, *Los Angeles. City of Quartz: Excavating the Future* London + New York: Verso, 1990, Chapter 1 'Sunshine or Noir?'.
 xvi Banham, (1971) Figure 11. 'Santa Monica Canyon from the garden of the Eames house.

xvii Banham, (1971) Figure 58b. Watts Towers , 1921-54.

xviii Ewing, S 'Intensification and intimacy: An Examination of Charles and Ray Eames's Film, Blacktop, A Story of the Washing of a School Yard (1952)' *Architectural Theory Review* Vol 14, no.2 August 2009 p.119-130.

xix Cooper, J dir. Ibid. 1972.

xx Stadler et al, ibid. 2008 p.13. Martino Stierli contextualises the LFLV studio in the context of the perceived crisis of urbanistic discourse around 1960, "what was the image of the contemporary city? How could the sprawling cities still be conceived as coherent units and how could they be displayed visually?"

xxi Stierli, ibid. 2008 p. 29. The problem with the single gaze as articulated by Rem Koolhaas (referring to Beijing's Bird Nest Stadium designed by OMA) "What has been important to me for some time now is to do something that cannot be defined by one gaze, one shot, one position. And you only realise this when you actually stand there." Stierli, ibid. 2008 p.166.

xxii Stadler et al 2008 p.161-170.

xxiii Potteiger, M and Purinton, J 'Road Stories' in *Landscape Narratives. Design Practices for Telling Stories*, John Wiley, 1998 p. 227-331.

xxiv Stadler et al, 2008 p.15. Stierli notes that that all photographs were either taken by Denise Scott Brown (1966) or selected, instructed and guided by Robert Venturi, Denise Scott Brown, Steve Izenour. The 2009 exhibition in Kriens/ Frankfurt, and accompanying exhibition publication of extracts from the wider Venturi Scott Brown archive related to the Las Vegas Studio posits a second reading of their seminal work. Previous Las Vegas site photographs from 1965-6 were published in *Architectural Forum*, March 1968.

xxv Stierli ibid 2008 p.31 "It is this insistence on the city as it actually is that is the lasting legacy of *Learning From Las Vegas*".

xxvi Stierli ibid.2008 p.167.

xxvii Stierli ibid. 2008 p.13.

xxviii Stadler et al, ibid. 2008 p.19, 163, 170 quoting Krakauer. Koolhaas/Obrist in conversation see the empty space around Las Vegas as important "It's the 1960s in colour. Sixties colour is technicolour. That refers to that perfect moment when everything was coherent." "One could say- the Eameses are at the beginning of this American bubble- and the Venturis would be at the end. And the bubble of this creativity was of course generated by the end of the war....Suddenly in the 1970s there was the question: what are we doing?"

xxix Denise Scott Brown reflecting in Hardingham et al, ibid. 2007 p. 81.